

## CLAIMS:

1. A printed wiring board having, on at least one surface of an insulating film, a wiring pattern comprising a base metal layer and a conductive metal layer formed on the base metal layer, wherein:
  - 5 in a section of the wiring pattern, a width of a bottom of the conductive metal layer is smaller than a width of a top of the base metal layer.
- 10 2. The printed wiring board as claimed in claim 1, wherein an average distance at the narrowest part between the wiring pattern and its neighboring wiring pattern formed on the insulating film is in the range of 5 to 40  $\mu\text{m}$ , the base metal layer which is in contact with the insulating film and constitutes the wiring pattern is projected following the contour of the conductive metal layer so as to rim the wiring pattern composed of the conductive metal layer, a discontinuous protrusion is not formed in the wiring pattern composed of the base metal layer projected following the contour of the conductive metal layer, and an independent base metal layer is not substantially present on the insulating film between wiring patterns.
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3. The printed wiring board as claimed in claim 1, wherein the base metal layer comprises an alloy or a laminate comprising two or more metals having different properties.

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4. The printed wiring board as claimed in claim 3, wherein the base metal layer is a layer containing Ni and/or Cr or an alloy layer of these metals.

10 5. The printed wiring board as claimed in claim 1, wherein a sectional shape of the wiring pattern has a stair formed by the base metal layer, and the stair of the base metal layer is formed so as to be projected following the contour of the conductive metal layer  
15 around the wiring pattern composed of the conductive metal layer.

6. The printed wiring board as claimed in claim 1, wherein in the section of the wiring pattern, the bottom 20 width of the conductive metal layer is smaller by 0.1 to 4  $\mu\text{m}$  than the total width of the contouring projected part of the base metal layer and the bottom of the conductive metal layer.

7. The printed wiring board as claimed in claim 1,  
wherein an exposed surface of the base metal layer  
projected following the contour of the conductive metal  
layer around the wiring pattern is coated with a  
5 concealing plating layer.

8. The printed wiring board as claimed in claim 7,  
wherein the concealing plating layer is at least one  
plating layer selected from the group consisting of a tin  
10 plating layer, a gold plating layer, a nickel-gold  
plating layer, a solder plating layer, a lead-free solder  
plating layer, a Pd plating layer, a Ni plating layer, a  
Zn plating layer and a Cr plating layer.

15 9. The printed wiring board as claimed in claim 1,  
wherein a plating layer is formed on the whole surface of  
the wiring pattern and a solder resist layer is formed  
thereon except a terminal of the wiring pattern.

20 10. The printed wiring board as claimed in claim 1,  
wherein a plating layer is formed on the whole surface of  
the wiring pattern, a solder resist layer is formed  
thereon except a terminal of the wiring pattern, and a  
second plating layer is formed on the terminal.

11. The printed wiring board as claimed in claim 1,  
wherein a solder resist layer is formed on the wiring  
pattern except a terminal of the wiring pattern, and a  
5 plating layer is formed on the terminal exposed from the  
solder resist layer.

12. The printed wiring board as claimed in claim 1,  
wherein the conductive metal layer is formed on the base  
10 metal layer through a sputtering copper layer.

13. A process for producing a printed wiring board,  
comprising the steps of depositing a base metal layer on  
at least one surface of an insulating film, then  
15 depositing a conductive metal on the base metal layer  
surface to form a conductive metal layer and then  
selectively etching the base metal layer and the  
conductive metal layer to form a wiring pattern, wherein  
the base metal layer and the conductive metal layer are  
20 brought into contact with an etching solution capable of  
dissolving the conductive metal to form a wiring pattern,  
and thereafter the resultant is brought into contact with  
a first treating solution capable of dissolving the metal  
for forming the base metal layer, then brought into

contact with a microetching solution capable of selectively dissolving the conductive metal and then brought into contact with a second treating solution having a different chemical composition from the first 5 treating solution and acting on the base metal layer-forming metal with higher selectivity than on the conductive metal.

14. The process for producing a printed wiring 10 board as claimed in claim 13, wherein the second treating solution not only selectively dissolves and removes the base metal layer but also passivates the residual base metal layer-forming metal.

15. The process for producing a printed wiring board as claimed in claim 13, wherein the wiring pattern formed by bringing the base metal layer and the conductive metal layer into contact with the etching 20 solution capable of dissolving the conductive metal is subjected to microetching prior to the contact with the first treating solution.

16. The process for producing a printed wiring board as claimed in claim 13, comprising the steps of

depositing a base metal layer containing Ni and Cr on at least one surface of an insulating film, then depositing a conductive metal on the base metal layer surface to form a conductive metal layer and then selectively

- 5 etching the base metal layer and the conductive metal layer to form a wiring pattern, wherein the base metal layer and the conductive metal layer are brought into contact with an etching solution capable of dissolving the conductive metal to form a wiring pattern, thereafter
- 10 the resultant is brought into contact with a first treating solution capable of dissolving Ni of the metals for forming the base metal layer, and then the wiring patterns formed is brought into contact with a microetching solution capable of dissolving the
- 15 conductive metal to retreat the conductive metal layer and thereby expose the base metal layer following the contour of the conductive metal layer around the wiring pattern and then brought into contact with a second treating solution capable of dissolving Cr or converting
- 20 a trace amount of the residual Cr into a non-conductive film.

17. The process for producing a printed wiring board as claimed in claim 13, wherein after the wiring

pattern is brought into contact with the second treating solution, a concealing plating layer is formed so as to cover at least the base metal layer of the wiring pattern.

5        18. The process for producing a printed wiring board as claimed in claim 17, wherein the concealing plating layer is at least one plating layer selected from the group consisting of a tin plating layer, a gold plating layer, a nickel-gold plating layer, a solder plating layer, a lead-free solder plating layer, a Pd plating layer, a Ni plating layer, a Zn plating layer and a Cr plating layer.

10        19. The process for producing a printed wiring board as claimed in claim 13, wherein the conductive metal layer is formed on the base metal layer through a sputtering copper layer.

15        20. A circuit device comprising the printed wiring board of claim 1 and an electronic part mounted thereon.